

Application No.: 10/735,067
Response Dated: October 16, 2006
Reply to Office Action of: August 14, 2006

MAT-8493US

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) An opening and closing device adapted to be coupled to a moveable part of a second device, the opening and closing device comprising:

a case in substantially tubular shape including a first end face having a first through-hole in a center thereof;

a stator facing the first end face inside the case, the stator having a portion extending from a stator face;

a rotor accommodated in the case and facing the stator, the rotor being rotatable with respect to the stator;

a spring for pushing the rotor to the stator; and

a lubricant means placed between the stator and the first end face of the case,

wherein the portion of the stator extending from the stator face is disposed through an opening in the lubricant means, and a cover covering a portion of the case, the spring is placed between the cover and the rotor, so that the cover, the case, the rotor, and the spring are rotatable simultaneously.

2. (Original) The opening and closing device as defined in Claim 1,

wherein the stator has a stator cam projected toward opposite to the first end face,

wherein the rotor has a rotor cam projected toward the stator,

wherein the spring pushes the rotor in a direction in which the rotor cam is contacted with the stator cam.

3. (Original) The opening and closing device as defined in Claim 1,

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wherein the lubricant means is a slide member interposed between the stator and the first end face of the case.

4. - 9. (Cancelled)

10. (Previously Presented) The opening and closing device as defined in Claim 1, further comprising

a fix shaft, wherein one end of the fix shaft is fixed to the stator, and an other end of the fix shaft is fixed to the cover.

11. (Original) The opening and closing device as defined in Claim 3, wherein the slide member is a metal plate having a lubricating surface.

12. (Currently Amended) The opening and closing device as defined in Claim 19, wherein at least one of the first slide member lubricant means, the second slide member lubricant means and the third slide member lubricant means is a metal plate having a lubricating surface.

13. (Original) The opening and closing device as defined in Claim 1, wherein the lubricant means is a lubricant layer formed on a surface of at least one of the first end face and the stator facing the first end face.

14. (Original) The opening and closing device as defined in Claim 1, wherein the first end face of the case is formed of a molded member of lubricating material, and the first end face serves as the lubricant means.

15. (Original) The opening and closing device as defined in Claim 1, wherein the stator is formed of a molded member of lubricating material, and the stator serves as the lubricant means.

16. (Previously Presented) The opening and closing device of claim 1, wherein the lubricant means is a metal disk plated with lubricating material.

17. (Previously Presented) The opening and closing device of claim 1, wherein the lubricant means is a metal disk plated with non-electrolyzed nickel-plating containing fluoride.

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18. (Previously Presented) The opening and closing device as defined in claim 1, wherein the second device is a foldable device having a first housing and a second housing, and

the case is fixed to the first housing and the portion of the stator extending from the stator face is fixed to the second housing.

19. (Currently Amended) An opening and closing device adapted to be coupled to a moveable part of a second device, the opening and closing device comprising:

a case in substantially tubular shape including a first end face having a first through-hole in a center thereof;

a stator facing the first end face inside the case, the stator having a portion extending from a stator face;

a rotor accommodated in the case and facing the stator, the rotor being rotatable with respect to the stator;

a spring for pushing the rotor to the stator;

a first slide member ~~lubricant means~~ placed between the stator and the first end face of the case, a cover covering a portion of the case and fixed to a stationary part of the second device, the cover being rotatable with respect to the case;

a second ~~lubricant means~~ slide member placed between the spring and the rotor; and

a third slide member ~~lubricant means~~ placed between the spring and the cover,

wherein the portion of the stator extending from the stator face is disposed through an opening in the first slide member ~~lubricant means~~, and

the spring is placed between the cover and the rotor, so that the case and the rotor are rotatable against the stator, and the rotor is rotatable against the cover, and the spring.

20. (Currently Amended) An opening and closing device adapted to be coupled to a moveable part of a second device, the opening and closing device comprising:

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a case in substantially tubular shape including a first end face having a first through-hole in a center thereof;

a stator facing the first end face inside the case, the stator having a portion extending from a stator face;

a rotor accommodated in the case and facing the stator, the rotor being rotatable with respect to the stator;

a spring for pushing the rotor to the stator;

a cover covering an opening of a second end face of the case, the cover rotates with the case and the rotor;

a fix shaft having one end fixed to the stator and an other end fixed to the cover, the fix shaft is inserted through a hollow portion of the rotor and the spring;

a first slide member lubricant means placed between the stator and the first end face of the case, a second slide member lubricant means placed between the spring and the rotor; and

a third slide member lubricant means placed between the spring and the cover, wherein the portion of the stator extending from the stator face is disposed through an opening in the first slide member lubricant means.